Music Masterworks
User Manual

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2 Introduction

Music Masterworks is a music composition program that allows your inspirations to come to life. Music Masterworks has been designed to be as easy to use as possible, so you can concentrate on what you want to do - compose music. This program is designed to allow you to create music very quickly through keyboard commands much like a word processor. Or, if you prefer, you can just point and click to create your compositions. Take a look at the Quick Keys and Mouse Commands sections to start using Music Masterworks now!

Music MasterWorks allows you to open several songs at a time, and even allows you to cut, copy and paste between them! Also, within a single song you can open up multiple sub-windows(called views), each in a different track and/or instrument.

This program utilizes the MIDI functionality of your sound card. You will usually be using the internal MIDI sound synthesis. However, if you have a MIDI compatible musical keyboard/piano, you can hook it up using a USB MIDI Cable. This allows you to play to your keyboard or record from it!

3 Views

Music MasterWorks allows multiple sub-windows within each song. These sub-windows, called views, can show a different track and/or instrument. For instance, when you want to add another instrument to your song, just select the 'View'-'New' menu item and another sub-window will appear. Then select the instrument combobox (the one that says 'Grand Piano') and select which instrument you would like to hear. One thing to remember here, though, is that you must have some notes in the current track/instrument to create a new track/instrument.

There are three types of views you can select from. The default is the normal staff notation view. However, if you select the combobox in the upper left corner of the view, you can select the Piano Roll or Message style views as well.

Views are very versatile. If you have multiple tracks in your song, you can select the track button (the one that says something like 'Track 1') and select multiple tracks to be shown in the same view! With this feature, you can edit multiple tracks at once. For instance, you could cut the same section out of the guitar and drum tracks at the same time.

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4 Instruments, adding

See the section on Views**.**

5 Adding instruments

See the section on Views**.**

6 Adding Tracks

See the section on Views**.**

7 MIDI

MIDI, or Musical Instrument Digital Interface, is a standard that specifies how to transmit and save music. It does this in the form of notes specifying a certain instrument, pitch and volume (as opposed to an audio wave recording such as a '.WAV' or '.MP3'). For instance, a note could be of instrument 'Violin' at middle C at a volume level of 96 (out of 127). MIDI specifies a set list of 128 possible instruments, so the same instrument will be played no matter what MIDI device is used to reproduce the sound (the MIDI device used determines the quality of the sound). It also allows extra 'banks' of instruments for expanded sets of instruments.

MIDI was originally designed as a way to connect electronic musical instruments together, so that they could play in unison or so that one instrument could control another. This same interface was adapted for personal computers. Music Masterworks saves your music files in MIDI format (this is a standard format that almost all other music composition programs can use).

To read more about recording from your MIDI keyboard/piano click here.

Select the MIDI synthesis device you wish to play to using the **'Device'-'MIDI Output' menu**. You will usually have an external USB MIDI option, and an internal sound synthesis option(s), as well as the default selected Windows MIDI output option.

To record with Music Masterworks make sure the MIDI cable is connected correctly, and then hit the record button. When you hit the record button, the record dialog will appear and Music MasterWorks will immediately start recording. Don't worry about immediately jumping over to your instrument to start playing, because the initial time wasted in the beginning is deleted (if your song is blank to start with). When you are done, click on the 'Done' button.

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Through a MIDI cable, there are 16 different channels that music data can be sent through. If you have several MIDI instruments chained together (using the THRU connectors) you can have each instrument receive/transmit on their own channel(s). When you are using the internal synthesis of the sound card, there is no MIDI cable involved but the sound card still receives data on 16 different channels. Controller and note data is sent per channel. Whether using the external or internal option, channel 10 is reserved for drum/percussion sounds.

MIDI Compliance: Music MasterWorks reads and writes all types of MIDI messages. The only exception to this is the informational (first) track of a multi-track (type 1) '.MID' file. The first track is reserved for informational messages (according to the MIDI spec) and so Music MasterWorks does not save non-information messages to this track (this includes control changes, notes and aftertouch messages). It also does not save delta times in the informational track. Also, Music MasterWorks does not play system exclusive messages or aftertouch messages (although it does read and write them in the '.MID' file and record them).

Music MasterWorks has a few added features not in the MIDI standard. These are: slurs, split-by-pitch for the grand staff, and the addition of minor keys for the key signature. Since these are not implemented in the MIDI specification, these are implemented in Music MasterWorks through specially placed MIDI text messages (which will be recognized by other sequencing software as only text).

8 Mouse Commands

Left click in open space to create a new note.

Left click in open space and drag the mouse to select a range of notes.

Left click on a note to select it.

Left click on a note and drag the mouse to move the note. Dragging over another note creates a **slur**.

Right click on a note to bring up the **note menu**.

Right click in open space to bring up the **open space menu**.

Effect of the mouse in the **Controller View**:

Left click on the box to the left to change the controller type being viewed.

Left click to add a single controller change.

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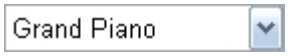
Left click and drag to put down a graph in a time range.

Right click to specify a specific numeric value at that time.

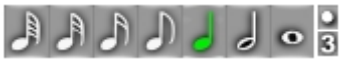
9 Buttons

- View Type Selector:
Use this to select how you want to view your composition.
You can select the **Staff view**, the **Piano Roll** view or the **Message view** .
The Piano Roll view shows where the notes are in relation to piano keys.
The Message view shows a low level raw data view of the MIDI messages.

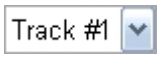
- View Filter Button:
Brings up the view filter dialog which allows you to select which **tracks** you want to see in this view.



- Instrument Selector:
This allows you to select the instrument used to play the notes in your track. If you are in Normal Mode it will change all the notes in the track to the instrument
selected.
At the end of the instrument list is the "Bank Select" option. If the MIDI device you are using supports multiple instrument banks, use this to select the bank.



- Note Duration Selector:
These buttons affect the duration of the CURRENTLY SELECTED NOTE. To change the duration of a newly created note you need to select the duration AFTER the new note has been put down.
The dot button on the end selects/deselects whether the note is dotted. The '3' button on the end selects whether the note is a triplet.



- Track Selection Control (only in 'complex' mode):
This allows you to select the track that you want the notes you put down to be in.

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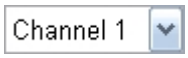

- Channel Selector:
This allows you to select the channel that you want the notes you put down to be in. If you are in Normal Mode you will not see this control. To change the channel a track is on in Normal Mode, select the Track Properties menu option under the Song menu item.

- Selecting this will close the view. The main song window will still stay open.

These next eight buttons are two-state buttons that mirror the various checkmarked options on the 'Options' main menu item:

- Hesitate Play Button:
When this button is down (highlighted green), notes will sound when moved in pitch and when placing new notes with the mouse.

- Play All/One View Button:
When this button is down only the currently selected view will play. When it is up, all the views will play.

- Auto-Rewind Button:
When this button is down the playbar will go back to the beginning after hitting the end.

- Move Pitch To Key Button:
When this button is down note placement and movement will stay within the notes of the selected key signature.

- Note Placement Button:
When this button is down it will show where notes will be placed using the mouse with a red note-head indicator (hit the left mouse button to put down a note).

- Show Lyrics Button.

- Show Controller View Button:
Shows the controller view so you can change controllers (MIDI special effects) such as 'Pitch Bend', 'Damper Pedal', etc...

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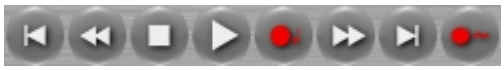
- Play while Recording button:
Will play existing music in your song while recording new music.

- Pitch Indicator:
This text box shows the pitch of the currently selected note. This indicator does not take into account the key signature, and always uses sharps instead of flats (for the notes corresponding to black keys on the piano).



- VCR Controls:
These control the playing and recording of music. The record button in the middle is for recording MIDI notes from an external musical keyboard or other MIDI instrument (requires a special MIDI cable). The record button on the far right is to record your voice or other wave audio in the form of a '.WAV' file.

- Record Song to Wave File button:
This will record your MIDI song to a wave audio file (wave audio files can be used to create an audio CDs). This function will only work if the sound card in your computer has a 'Stereo Mix', 'What U Hear', or similar recording device option.

- Voice to Note Button:
Pushing this button brings up a voice to note real-time translation window. Just sing into your microphone and the pitch of your voice will be displayed in a graph format. After you're done, hit the 'Done' button and it will be translated into notes for you.

- Wave File to Note Button:
Pushing this button brings up a file selection dialog, where you can select which wave file ('.WAV' extension) will be translated into notes.

- Check your Singing / **Singing Analysis** button:
Select the range of notes you are going to sing first, then select this button to test how close to the actual pitch you can sing the notes.

- Snap-To Button:
Pushing this button brings up the snap-to dialog that allows you to select at what resolution you want to compose. This affects the grey vertical guidelines as well as many commands, including the mouse selection and moving notes in time.

- Split View Button:
Pushing this creates another **view** within the song window. You can use this edit a new

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or different track(s)/instrument(s) within the song.

10 Keyboard Commands

*note: These keys can be configured by selecting the 'Options'-'Key Assignment' menu item.

A	- Add a note right after the currently selected note
E	- Append a note to the very end of the view
M	- Add another note at the current time
I	- Insert note before the currently selected note
Delete Key	- Clear currently selected note(does not affect other note positions)
Shift-Delete Key	- Delete the current note (this will condense the hole created)
'<' and '>'	- Decrease and Increase note duration
',' and '.'	- Decrease and Increase note duration
'+'	- Increase note duration
'-'	- Decrease note duration
D	- Dot currently selected note(duration 1&1/2 times longer)
T	- Triplet currently selected note(duration times 2/3)
Ctrl-'+' or Ctrl-'>'	- Increase the velocity/volume of the currently selected note
Ctrl-'-' or Ctrl-'<'	- Decrease the velocity/volume of the currently selected note
'C'	- Cycle through chords (must have base note selected)
Shift-'C'	- Cycle backward through chords
Alt-'C'	- Invert chord
'V'	- Anchor chord down(adds note one octave down from base)
'U'	- Anchor chord up (adds note one octave up from base)
'P'	- Play the entire composition
'R'	- Rewind play/record line ¼ measure
Shift-'R' or Home	- Rewind play/record line to beginning
Ctrl-'R'	- Record from MIDI input
'F'	- Fast forward play/record line ¼ measure
Shift-'F' or End	- Forward play/record line to end
'S'	- Stop playing
Space Bar	- Play a section around the currently selected note
Up Arrow	- Move currently selected note up in pitch
Down Arrow	- Move currently selected note down in pitch
Page Up	- Move currently selected note up one octave
Page Down	- Move currently selected note down one octave
Right Arrow	- Move forward in time
Left Arrow	- Move backward in time

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Shift-Up Arrow - Move to the next note at your current location
Shift-Down Arrow - Move to the previous note at your current location
Shift-Right Arrow - Select a range of notes to the right
Shift-Left Arrow - Select a range of notes to the left
Ctrl-Right Arrow - Move note forward in time
Ctrl-Left Arrow - Move note backward in time
'1'-'7' - Move currently selected note to musical note A-G
'9' - Move currently selected note down one octave
'0' - Move currently selected note up one octave

Shift-Ins or Ctrl-V - Paste the last copied selection of notes
Ctrl-Ins or Ctrl-C - Copy a selection of notes
Ctrl-Del - Clear the current note or selection of notes (leave hole)
Shift-Delete or Ctrl-X - Delete a selection of notes

Alt-Backspace - Undo the last command (if last command is undoable)

11 Beams

In the staff view, beams are horizontal lines that are used in place of flags when notes (of 1/8th note duration and below) are connected together. Beams are automatically placed in Music MasterWorks - there is no manual control of how beams are placed.

12 Ties

Ties are automatically placed in Music MasterWorks when a note is created that goes over a measure boundary.

13 Slurs

Connecting a group of notes with a slur, a curved line over or under a group of notes, indicates that the notes should be played smoothly together. This usually means playing the group of notes without resting in between (or even overlapping the durations of the notes). Creating a slur does not change the duration of the notes, it is only a notational feature. Fine-tuning the duration of notes should be done by right clicking on the note, selecting 'Properties' and changing the duration 'number of ticks'.

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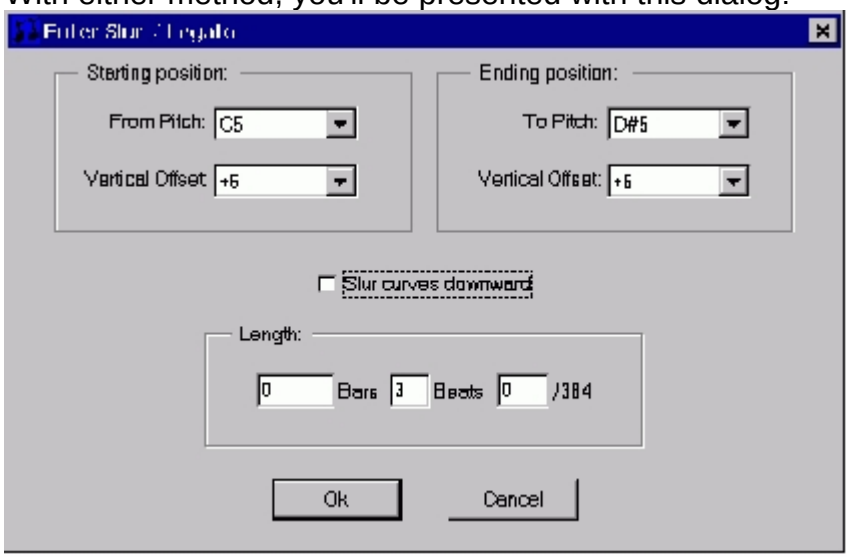
You can create slurs in Music MasterWorks by either:

- Selecting a range of notes and using the 'Edit'-'Create Slur' menu item.
- Using the mouse, left clicking on a note and dragging (keep left mouse button down) onto another note at a different time.

With the latter method, you can better choose which notes are used as a base position for the slur (if there are multiple notes at the beginning or ending times).

With either method, you'll be presented with this dialog:



The 'From Pitch' and 'To Pitch' indicates which note the begin and end slur will be drawn in relation to ('C5' refers to middle C). The vertical offset controls the position of the slur in relation to the pitch, with plus going up and negative going down. The offset is in increments of note positions, so +7 would draw the slur an octave above the pitch. These settings are used to fine-tune the position for aesthetic purposes.

Check the 'Slur curves downward' to make the slur point down.

The 'Length' of the slur is usually not altered, and only changed for aesthetic purposes.

Note: Ties, drawn over a long note that goes over a bar boundary, are created automatically in Music MasterWorks.

Note: Slurs are not an intrinsic feature of MIDI and are supported in Music MasterWorks by inserting a MIDI comment with a special text syntax.

14 Tutorial

This tutorial will guide you through the basic editing features of Music MasterWorks, by creating the first few notes of the song 'For Elise' by Beethoven. You can use the alt-Tab key combination to switch between this help file and the program. Action

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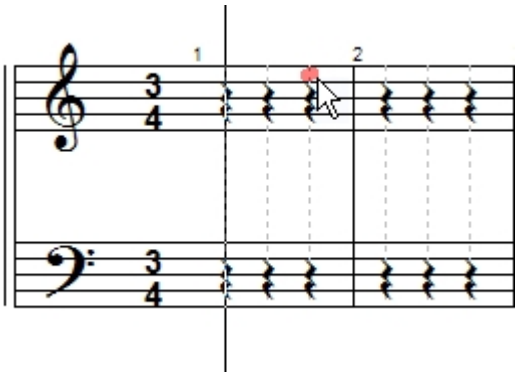
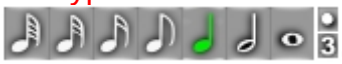
items are highlighted in red text.

Music MasterWorks starts off with a completely blank staff view. Notice that the time signature defaults to 4/4 time (4 quarter notes per measure/bar). For this song, we will need 3/4 time. Select the 'Song'-'Time & Key Signature' menu item. This option shows you a list of time and key signature changes throughout the song. Right now there is only one time/key signature at the beginning of the song. Select the 'Change' button. Now select '3' in the first drop-down list under 'Time Signature' instead of '4'. Notice that you can change the key signature in this screen as well ('For Elise' is in C Major, so nothing needs to be changed). Now hit OK, and OK again. Notice that there are now only 3 quarter rests (rests are empty time, inserted automatically by Music MasterWorks) per measure.

Now we can put down some notes. Using the mouse, move the cursor over the first measure. You should see a red dot that moves with the mouse. This is an indicator to show you where the note would go if you clicked the left mouse button. We want to create an 'E' note to start the song off with, but to follow the notation of the song, we don't want it right at the beginning. We want it at the 3rd beat of the first measure. The gray dashed lines are there as a beat guide and to show you where you can place notes using the mouse. You can always change the spacing of these guide lines (and the snap-to resolution of the mouse) by selecting the 'Options'-'Snap-To Resolution' from the main menu. Position the mouse (and the red dot) like this:



and click the left mouse button. This puts down the E note and plays it (as long as you have your speaker on, the correct MIDI output device selected under the 'Device'-'MIDI Output' menu). Notice the play/record line has moved to that point. This line shows you where it will start playing when you hit the play button and where recordings will be inserted. Also notice the note letter guide down at the bottom says 'E6' (if it does not, hit the delete key to delete the note and try again). This is to help beginners identify notes on the staff. The number '6' refers to the octave. Middle C is 'C5', the note right below it, B, is considered in the next octave so it is designated 'B4'.

The default note length is a quarter note. However, we need an eighth note, so hit the minus key on your keypad 2 times. You can also change the note duration by selecting one of the  duration buttons at the top. The note duration buttons affect the currently selected note and new notes that are put down

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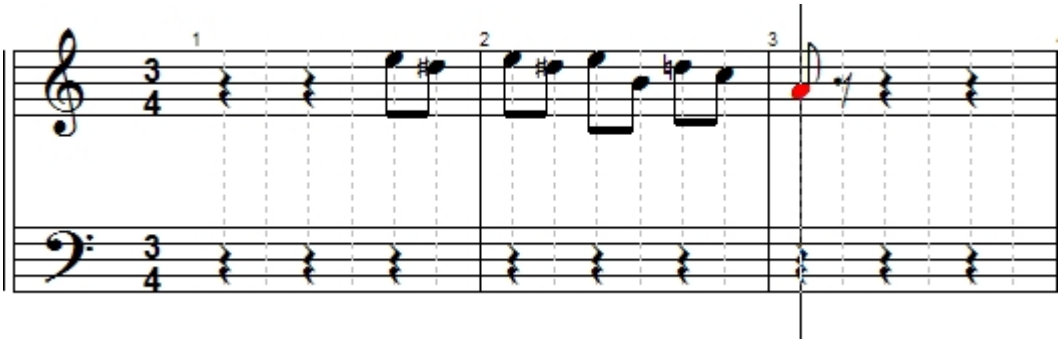
using the mouse.

You can also see that the up & down gray dashed lines have changed - this is because you changed the note to a smaller eighth note. This automatic change allows you to place notes using the mouse on each 1/8th note beat. To change the spacing of these guide lines (and the mouse snap-to resolution) you can select 'Options'-'Snap-To Resolution' from the main menu.

Now to add the other notes of the song. This time, instead of using the mouse, we'll use the keyboard. Hit the 'A' key. This adds a note right after the currently selected note. Now we need to change the pitch. Hit the down arrow key. This moves the pitch down one half step (you can alternately move within the key signature by selecting the button). Now, to create more notes:

Hit the 'A' key.
Hit the up arrow key.
Hit the 'A' key.
Hit the down arrow key.
Hit the 'A' key.
Hit the up arrow key.
Hit the 'A' key.
Hit the down arrow key 5 times.
Hit the 'A' key.
Hit the up arrow key 3 times.
Hit the 'A' key.
Hit the down arrow key 2 times.
Hit the 'A' key.
Hit the down arrow key 3 times.
Hit the plus key on the keypad 2 times.

Your song should now look like this:



Now to make a note that will play at the same time as the last note: Hit the 'M' key. We now have 2 notes at the same time (you can have as many notes as you want play at the same time). Now we need to move the new note down. Hit the down arrow 20 times. If you're tired of hitting the down arrow key, you can also drag and drop the note using the mouse.

Now that the first notes of the song are complete, let's hear it! Select the rewind

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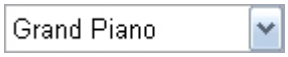
button or hit shift-R. Then select the play button or hit the 'P' key. Hmmm, sounds a little slow. Let's up the tempo a little bit. Select the 'Song'-'Tempo' menu item. Like the time/key signature screen, this shows all the tempo changes throughout the song. Select the 'Change' button. Change the number highlighted to 132. Hit OK, and OK again. Play the song again.

Now let's change the instrument played, just for fun. Select the 

instrument drop-down list and select 'Harpsichord'. This will change all notes in the view to that instrument. Hit play again. Sounds a little dated? The MIDI standard has 128 musical instruments to choose from, so you shouldn't get bored. It also allows for percussion sounds. The quality of the sound depends on the quality of the MIDI synthesizer of your PC sound card (all computers should also have the 'Microsoft GS Wavetable SW Synth' option which standardizes what you hear).

Wondering how to play more than one instrument at a time? Hit the button in the lower right and you'll get a new track with an independent musical instrument control. You can also select the filter button to edit more than one track at a time.

To add, change or delete lyrics: right click where you want the lyrics to start. A pop-up menu will appear. Select 'Add Lyric'. A dialog will appear where you can enter the lyrics you want displayed. You can also right-click on a note and a different menu will appear.

Music MasterWorks has a many more features than this! For a complete list of commands, refer to these help file topics:

- Menus
- Keyboard Commands
- Mouse Commands

Music MasterWorks also has the capability to turn your singing into notes! It can even check your singing against a tune you select. You can also record notes from an external MIDI keyboard/piano.

And, if you purchase Music MasterWorks, you can access the special effect controller view, to put in the 'sustain pedal' effect and make it sound a whole lot better. Hit the button. Now you'll see a black graph view. Click on the button to the left marked 'Modulation' to change the effect selected. Scroll down in the list and select '64 – Sustain/Damper Pedal' and hit OK. Now we'll need to turn on the sustain pedal. Click in the black area at or before the first note and almost to the top of the black area. You should see the green graph line rise up. Now play it again. The notes should be sustained a little longer now, making them blend and sound better.

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15 Chords

Chords can be created using the normal methods of putting down notes or can be created using the chord commands:

'C' key – cycle through different chords
shift-'C' key – cycle backwards through different chords
alt-'C' key – invert chord
'V' key – Anchor chord by placing a note up one octave
'U' key – Anchor chord by placing a note down one octave

An individual note in a chord can usually be transposed up or down an octave and still keep the chord sounding consonant (pleasing to the ear). You can move a note of a chord up an octave using 'invert chord' command.

Adding a note up or down an octave from the chord base note is also often used, and this can be done with the 'anchor' commands.

You can also always delete notes to simplify the chord.

The chord cycling commands use the 'chords.mid' file as a guide. This file is located in your installation directory. You may open and change this file to change the chords that are cycled through.

16 Trouble Shooting

Please contact us at **support@musicmasterworks.com** for technical support, or call (within the U.S.): (303) 233-6791

Problem:
Can't place notes accurately in time using the mouse (or perform any other function accurately using the mouse).
Answer:
Check your snap-to resolution setting. This can be accessed from the 'Options'-'Snap-to Resolution' menu item. All mouse functions 'snap-to' this resolution setting, so the mouse action may not happen exactly where you click. If you need more resolution, change this setting to something lower, such as 16th note or less. The vertical dashed lines you see on the staff show the snap-to resolution positions as a guide.

Problem:
Rests appear where you don't expect!
Answer:
Remember that you can overlap notes in Music Masterworks. For instance, if

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4 quarter notes are placed on the staff, but each overlaps the next by 1/8th note, you will see almost half the measure/bar has a rest. If you place them at the correct 1/4th note intervals there will be no rest. The vertical dashed guidelines are there to show you the time intervals (This is set using the 'Options'-'Snap-to Resolution' menu item, and also affects where mouse-click actions occur). Use these guidelines to place notes correctly.

Problem:

Don't hear any sound when clicking on the play button!

Answer:

Make sure you have the correct output device selected under the 'Device'-'MIDI Output' menu.

If you do this and still do not hear any sound, check your Windows volume control / sound mixer (select 'Device'-'Playback Volume' from the menu) to see if the MIDI or Synth volume has been turned down or muted. Turn the volume all the way up.

Also check to make sure your speakers are plugged in correctly, and check the volume knob on your speakers.

Problem:

The microphone doesn't seem to record anything, or it is at a very low volume level.

Answer:

First, make sure the microphone is selected under the Music MasterWorks 'Device'-'Wave Input' menu.

Make sure your microphone is securely plugged into your computer.

Also, check the 'Volume Control' settings of the microphone. Select 'Options'-'Recording Volume' from the menu. Make sure the volume on the microphone is turned up. Some sound cards also have a 'boost' option under the advanced volume control settings - turn that on.

Problem:

The MIDI record operation doesn't seem to record anything.

Answer:

Make sure you hit the 'Done' button after recording.

If you have selected the 'Done' button, make sure that you have your MIDI cable hooked up correctly to your MIDI instrument. The 'IN' connector of your cable should be hooked up to the 'OUT' port on the back of the instrument, and the 'OUT' connector should be plugged into the 'IN' port on the back of the instrument. It is 'reversed' because what is 'out' to the instrument is 'in' to the computer.

Make sure you turn on/plug in your MIDI device *before* starting Music Masterworks.

Make sure you have installed any software on CD that came with your sound

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card or USB midi device.

Make sure you do NOT have the 'Device'-'MIDI Recording Echo' menu option set to the USB midi input device.

Problem:
Playing to an external MIDI instrument, nothing is played!
Answer:
Make sure you have the correct MIDI output device selected under the 'Device'-'MIDI Output' menu.
If you do this and it still does not work, make sure you have the MIDI cables connected correctly. The 'OUT' connector of your cable should be hooked up to the 'IN' port on the back of the instrument, and the 'IN' connector should be plugged into the 'OUT' port on the back of the instrument. It may seem reversed, but remember: what is 'out' to the computer is 'in' to the instrument.

If that doesn't work, refer to the documentation of your music keyboard. You may have to select the input device (for example, changing serial input to midi input) or you may have to change the channel(s) the keyboard receives on.

Problem:
There is something wrong with the display of the staff or the notes.
Answer:
Select 'Options'-'Staff/Piano Roll Options' to change how the staff is displayed, such as the clef type, split-at-pitch for the grand clef, placement, etc.

Problem:
The musical instruments don't sound realistic.
Answer:
There is often more than one output device to choose from under the 'Device'-'MIDI Output' menu. If you have multiple options, try them all out. Remember, the sound card inside your computer determines the quality of the MIDI output.

Problem:
There is more than one track/instrument in the composition, but only one instrument is played!
Answer:
First, make sure you do not have the 'Play only selected view' option set.
You may need to give each track a unique channel number. Do this for each View/Track in your song by selecting the view sub-window and then selecting 'Song'-'Track Properties' off the menu and then select a different channel and hit OK.
Another cause of this problem is that many low-end sound cards do not support setting a different instrument per channel. To fix this problem, select 'Device'-'Select Device Type' off the menu and select "Basic Sound Card" and hit OK.

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Problem:
Music MasterWorks is not echoing my recorded input out my speakers.
Answer:
Make sure the proper device is selected off the 'Devices'-'MIDI Recording Echo' sub-menu.

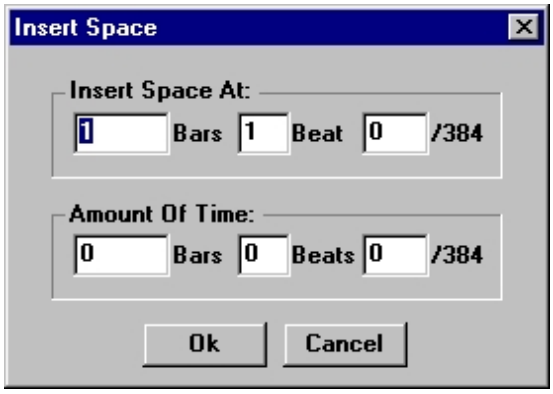
Problem:
I add lyrics and/or wave audio but nothing happens! I don't see it!
Answer:
The lyrics and wave audio will not display until you put down at least one note.

Problem:
Music MasterWorks blows up! (causes a UAE, performs an illegal operation, causes a memory protection fault, etc, etc…)
Answer:
Contact Aspire immediately! Send an e-mail to:
support@musicmasterworks.com
Or call technical support at: 303-233-6791
Also, make sure you are using the latest version of your sound card drivers - *This fixes most problems! The sound card is the part of your computer that makes the music. Most sound card manufacturers have an internet site where you can download the latest drivers. Follow the manufacturer's instructions for updating the drivers.
Next, check to see if you have the latest version of Music MasterWorks. You can download the latest version off of the Aspire web site at:

http://www.musicmasterworks.com/support.html

17 Entering Time Values

The insert space dialog is a good example for entering time values. It has both an 'at time' and an 'amount of time' value.



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For the 'at time', the bars(or measures) value starts at 1 for the first bar and does not have an upper limit. In the staff view, the bar numbers are printed above the start of each bar for reference.
The second value is the beats. In the 'at time' value, this number starts at 1 for the first beat, and goes to however many beats are in a measure. If, for example, you selected 3/4 time you would have 3 beats in a measure, so the value could go up to 3.
The last value is the 'remaining ticks'. This value is dependent on the 'ticks per quarter note' value set in the song properties. In the insert space dialog shown, this value is out of 384 ticks. That means that each quarter note is equal to 384 ticks. So if you wanted to move the 'at time' value over another half a quarter note, you would enter 192 in this field.

The 'amount of time' input is similar, except the bars and beats value start at zero. For example, if you wanted to insert a bar and a half, and your time signature is 6/4, you would enter 1, 3 and 0.

18 Accidentals

Accidentals (sharps,flats,naturals) are inserted automatically by Music MasterWorks. If the key signature has sharps, the accidentals are defaulted to sharps. If the key signature has flats, the accidentals are defaulted to flats.

To change the accidentals from their defaults: right click on a note and select one of the 'Force to' options. There is a choice of double flat (which moves the note down 2 half steps), flat, sharp, and double sharp (which moves the note up 2 half steps), or the default. Some accidental options are not allowed, such as E#.

19 Measure Width

The width of the measure is controlled by the options from the 'Options'-'Staff / Piano Roll Options' menu item. If you'd like the measures condensed select the 'Condense measure when possible' option. If you'd like to have a maximum size for the measure, or set all measures to the same size, select the appropriate option in the 'Measure Width' drop-down selection. These settings are on a per-track basis, so if you have multiple tracks in your song you'll need to set each individually. You must save the file to save these settings permanently (if these settings are changed it will not force a save).

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20 Note Menu

The note menu pops up when right clicking on a note. Its options are:

Delete: deletes the note and moves the rest of the music back to fill in the void.
Clear: deletes the note but does not move the rest of the music.
Properties: brings up dialog to fine-tune duration and velocity(note volume).

Default Accidental: this will make the note use the default flat/sharp depending on the key signature selected.

The following options will be grayed out if they are not possible with the selected note:
Force to Double Flat: this will force the note to display as a double-flat.
Force to Flat: this will force the note to display as a flat.
Force to Sharp: this will force the note to display as a sharp.
Force to Double Sharp: this will force the note to display as a double sharp.

21 Open Space Menu

The open space menu pops up when you right click in open space on the staff. Its options are:

Paste: pastes music that has been previously cut or copied. Brings up paste dialog.
Insert Space: moves music down at location to make space.
Delete Range: brings up delete range dialog.
Set Play/Record Line: sets position where playing starts and where recording is inserted.
Add Lyric: adds a line of text at the location you click.
Change Lyric: changes lyric where you click, if a lyric exists there.
Delete Lyric: deletes lyric where you click, if a lyric exists there.
Add Audio: select a '.wav' file to insert into the song.
Change Audio: changes audio properties.
Delete Audio: deletes audio segment inserted.
Change Slur: changes slur properties.
Delete Slur: deletes slur.

See the **Slur** section about creating slurs.

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22 Base Clef

To set the staff as just a Bass Clef, Select 'Options'-'Staff/Piano Roll Options' from the menu and change the 'Clef Type'.

23 Treble Clef

To set the staff as just a Bass Clef, Select 'Options'-'Staff/Piano Roll Options' from the menu and change the 'Clef Type'.

24 Printing

You can print sheet music (or a piano roll when using the piano roll style view) by selecting the 'File'-'Print' menu option. To see a preview of what the printout will look like select the 'File'-'Print Preview' menu option.

Printing will use only the currently selected view/track as a basis for what it prints. For songs with multiple tracks, you will need to print each track individually or change the view filter of the currently selected view to include all tracks.

To change the scale/size of what is printed, select the 'Option'-'Staff / Piano Roll Options' menu item, and change the 'Printout Scale'. You can also change options that affect the measure width as well.

25 Menus

File Menu

New Song
Open Song
Close Song
Save Song
Save As…
Rename Song…
Print Setup
Print Preview
Print

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Exit

Edit Menu

Undo
Redo
Cut
Copy
Paste
Clear
Append Song
Insert Space
Delete Time Range
Select All
Select Time Range
Delete Track
Selection Velocity/Selection Properties
Transpose
Quantize
Create Slur

Device Menu

MIDI Output, MIDI Recording Echo,MIDI Recording Input,Wave Input

Song Menu

Song Properties
Track Properties
Tempo
Time & Key Signature

Note Menu

Add Note After Current - 'A' key
Add Note At End - 'E' key
Add Note At Current - 'M' key
Insert Note Before Current - 'I' key
Pitch Up 1/2 Step - up-arrow key (pitch up octave with: PageUp)
Pitch Down 1/2 Step - down-arrow key (pitch down octave with: PageDown)
Increase Duration '+' key
Decrease Duration '-' key
Dot note - 'D'
Triplet note - 'T'
Properties - right-click on note head to bring up note menu
Delete - shift+delete key
Clear - delete key
Move Right in time ctrl-right arrow

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Move Left in time ctrl-left arrow
Select Next Current Note right arrow
Select Previous Current Note left arrow
Accidental Commands

Options Menu

Key Assignments

Play on Hesitation
Play only selected View
Auto Rewind
Move Pitch to Key
Show Note Placement
Show Lyrics

Staff / Piano Roll Options
Snap-To Resolution
Voice-to-Notes Settings
Metronome Settings

Normal/Complex Mode

View Menu

New
Delete

Show Controller Graph

Play Record

This menu replicates the functionality of the VCR buttons.
Record Song to Wave File
Voice to MIDI Notes
Wave File to MIDI Notes
Check your Singing

Window Menu

Cascade
Tile
Song Selection

Unlock Menu

Click on these menu items to register/unlock/purchase Music MasterWorks.

There is also a Note Menu which will pop-up when *right* clicking on a note, and an Open Space Menu which will pop-up when *right* clicking in open space

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on the staff.

26 Clef Type

You can change the clef type(Grand/Treble/Bass/Alto/Tenor/Octave-Treble) with the 'Options'-'View / Print Options' menu item.

27 Key Assignments

This screen allows the configuration of the keyboard keys used in Music MasterWorks and what commands they enact.

Click here to see the default key configuration.

28 Staff / Piano Roll Options, Options menu

This option will bring up different dialogs depending on what type of view you have selected, either the Staff settings or the Piano Roll settings.

If you are in Staff view you have these options:
Clef Type: select either Grand/Treble/Bass/Alto/Tenor/Octave-Treble clef.

Split at pitch (for Grand Clef only): to change at which pitch it will place notes on the bass or treble clefs (the default is middle C goes on the treble clef and notes below that go on the bass clef). This can only be set per track, not per individual note.

Printout Scale: This decreases or increases the size of the staff when printing sheet music.

Condense Measure when possible: to decrease measure width - this allows you to see more measures at once, but may condense the notes too much.

Measure Width: options to set maximum or constant measure width. To not go above a certain size/width select one of the 'Maximum size' options. To see a constant width for every measure select one of the 'Always # beat' sizes.

Show Text Types, Lyrics/Comments/Other: Some text may just get in the way, so this gives you the option of not displaying them.

These options can 'beautify' your sheet music by aligning notes that are slightly off and beam together notes that are slightly off from their appropriate distance from

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each other:
Time Group Merge %: Percent of quarter note between time groups that will merge.
Beam Note Tolerance %: Percent of note tolerance that beamed notes can be off by.

Color Changes With:
Always black: standard black for the note heads.
Volume: color will change with how loud the note is.
Instrument: color will change depending on the instrument selected.
Channel: color will change with the MIDI channel.
Consonance: color will change with how consonant the note is with the other notes at the same time.
Track: color will change depending on the MIDI track the note is in.
Pitch: color will change with increasing pitch.
Octave: color will change with the octave it's in (octave changes at each 'C' note)

You have the options of these color schemes (the first color is the lowest value's color):
Rainbow: black > grey > purple > bright purple > blue > bright blue > cyan > yellow > orange > red
Contrast: purple > blue > cyan > green > yellow > army green > orange > red
Grey scale: black > light grey
Red scale: black > bright red
Green scale: black > bright green
Blue scale: black > bright blue
Yellow > Orange > Red
Red > Purple > Blue
Green > Cyan > Blue

If you are in Piano Roll view you have these options:
Print Piano Type: Depending on the type of piano you own, you may want to change this to better fit it's size.

Color Piano Keys: color-codes piano keys to better show octaves.

Quarter Note display length: you can shorten or stretch the width of the display using this.

Show Text Types: shows various types of text.

Color Changes With: see above for various color options.

29 New Song, File menu

This will create a new, empty song.

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30 Close Song, File menu

This will close the currently selected song window.

31 Exit, File menu

This option will close down Music MasterWorks.

32 Print, File menu

This will bring up a print dialog that will allow you to select which page(s) you would like to print, and then print the music to the printer attached to your computer.

This option will use the currently selected view/track as a basis for what it prints. For songs with multiple tracks, you will need to print them individually.

33 Print Preview, File menu

This will show what the printout will look like, and allow scrolling through the pages of the printout.

34 Print Setup, File menu

This will bring up the printer configuration dialog to set printer settings.

35 Rename Song, File menu

This will rename the currently selected song's file to a different name.

36 Save As, File menu

This will save the currently selected song to another name. The original song file will not be affected.

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37 Save Song, File menu

This will save the currently selected song to disk. If the song does not have a name, it will prompt you for one.

38 Open Song, File menu

This will bring up a file open dialog to browse for a ".MID" file.

39 Cascade

This command stacks all song windows and overlaps them so that each is the same size as all others and only part of each underlying window is visible.

40 Tile

This command arranges your open windows from top to bottom so that they cover the entire width of the screen without overlapping one another.

41 Song Selection

You can select between the different open songs using the 'Window' menu.

42 Undo

Un-does the last executed command. If the last command executed was not undoable this option is not available.

This can also be done by hitting Alt+Backspace.

43 Redo

Re-executes the last undone command.

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44 Cut

Cuts the currently selected range of notes. Cut will copy the selection before it deletes it, so you can paste it afterward.

This can also be done by hitting Shift+Delete.

note: Cut will delete the time that the selection took up and move the rest of the composition back to fill the space deleted. If you do not want the space deleted, use the Clear function.

note: this will NOT copy tempo changes and time/key signature changes.

45 Copy

Copies the currently selected range of notes.

This can also be done by hitting Ctrl+Insert.

You can select more than one track at a time by selecting the 'Track #1' button and changing the view filter.

You can select everything in a view by selecting 'Edit'-'Select All'.

You can select a long range of notes by selecting 'Edit'-'Select Range'.

note: this will NOT copy tempo changes and time/key signature changes.

46 Paste

The paste dialog allows you to select where and how you want your copied selection pasted.

Paste At: the bars value starts at 1 for the first bar and does not have an upper limit. In the staff view, the bar numbers are printed above the start of each bar for reference.
The second value is the beats. In the 'at time' value, this number starts at 1 for the first beat and goes to however many beats there are in a measure. If, for example, you selected 3/4 time you would have 3 beats in a measure, so the value could go up to 3.
The last time value is the 'remaining ticks'. This value is dependent on the 'ticks per

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quarter note' value set in the song properties. This value is usually out of 384 ticks(which is the default). That means that each quarter note is equal to 384 ticks. So if you wanted to move the 'Paste At' value over another half a quarter note, you would enter 192 in this field.

Paste Method: determines what will happen to the notes being pasted over. The 'Mix' option will keep the current notes; the 'Write Over' option will remove the current notes; the 'Insert' option will move the rest of the notes (depending on the view filter) over before performing the paste.

Track Placement: If you select 'Force to Current Track/Channel/Instrument' it will change everything you pasted to be of the current track, and will change the channel and instrument to what you have selected in the combo boxes above the view. If you select 'Assign Tracks by Channel and Instrument' it will place what you copied depending on which track best matches the instrument and channel. If there is no good match, it will create a new track for each combination of channel and instrument. You should use this option if you copied more than one track to keep the instruments in separate tracks.

Number of Copies: field is usually left at 1, but if you want to repeat what you're pasting, enter the number of times you want it repeated.

Space Between Copies: (in ticks) This field only comes into play if the number of copies is greater than 1. If so, this field determines how much extra space is put between the copies. If, for instance, you have selected 4/4 time(with the default of 384 ticks per quarter note) and are copying 3 quarter notes in a row, but want the multiple copies to come out on even bar boundaries, you would enter 384 ticks in this field.
If this value is 0, the next copy will be placed after the last note selected - taking the last note's duration into account. So if, for instance, you are copying 4 quarter notes in a row and you've selected 4/4 time, a copy would be placed every bar.
If this value is negative, the pasted sections will overlap.

Selection Duration: shows the duration of the notes that have been selected to copy.

This operation can also be executed by selecting Shift+Insert, or by selecting the right mouse button in the staff area when not over a note.

47 Clear

Clear, unlike the delete, leaves a hole where the selection is deleted, and so does not shift the position of other notes.

This can also be done by hitting Ctrl+Delete.

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48 Insert Space

This option will insert space either before the currently selected note, or after the currently selected note.

You can find the exact starting time of a note, and thereby do more precise editing, by going to the Message View .

49 Delete Range

This option will delete a time range either at (and including) the currently selected note, or after the currently selected note.

You can find the exact starting time of a note, and thereby do more precise editing, by right clicking on the note and selecting 'Properties'. You can also find out times using the Message View .

50 Select All

Select All will select all the notes(and other MIDI messages) in the current window, using the window's filter.

51 Select Time Range

This option brings up a dialog where you can type in the starting time and duration of what you want selected. See the Entering Time Values section to understand the MIDI time system.

52 Delete Track

This option brings up a dialog where you can select which track you wish to delete.

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53 Selection Velocity/Selection Properties

This option brings up a dialog where you change the properties of the currently selected range of notes all at once.

54 Append Song

This appends a complete MIDI song file to the end of the currently edited song. It will bring up a file menu to select the song to append. This will put in tempo and key/time signature changes as well, which makes it different than the paste command.

55 Transpose

Transpose changes the pitch of the notes in the currently selected range.

56 Quantize

Quantize cleans up your music so that it will fall neatly onto beat boundaries and/or fit into a certain amount of time.

The 'Align' options make it possible to align all the selected notes to a specific beat interval. This will give your music a steadier beat. If you want to align where the notes start select 'Align note beginnings'. If you want to align the duration of the notes select 'Align note durations'.

The fit-to-time options expand or condense your music in time. Use this if, say, you recorded music is 11 bars long and it really should be 10 bars long. To use this option, select the 'Fit to time' checkbox and fill in the amount of time you would like the selected music to fill. Also, if you want to adjust the rest of the music around your selection as well, make sure the 'Shrink/Expand rest of song' checkbox is checked.

57 Output Options

The 'MIDI Output' sub-menu lets you choose which MIDI synthesis device in your computer you'd like to use to play your MIDI music. There may be multiple devices, so try different ones until you get the best quality sound.

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The 'MIDI Recording Echo' sub-menu lets you choose which MIDI synthesis device to echo the recording out through your computer, to let you hear what you are playing while recording. This is automatically set to the same device as the MIDI output, but if there is a problem you may need to set this manually.

The 'MIDI Recording Input' lets you select a specific device to record MIDI music from. The default is to record from all MIDI input devices at once.

The 'Wave Input' sub-menu lets you choose the device to record from for voice-to-note, singing analysis and audio wave recording.

58 Song Properties

This allows editing of the author, title, copyright and comments for the song. It also allows the changing of the ticks-per-quarter-note value.

59 Track Properties

Use this to change the default channel and instrument for a track.

60 Tempo

Use this to edit tempo changes throughout the song.

61 Time & Key Signature

Use this to change time and key signature throughout the song.

About sharps and flats: If C Major or a key signature with sharps in it is selected only sharps will be displayed by default. If a key signature with flats is selected only flats will be displayed by default. For instance, the note 1/2 step up from C will be displayed as C sharp in the key of C Major. However, that same note will display as D flat if the key of F flat is selected (please note that C sharp and D flat refer to the exact same note / pitch / key on the piano).

You can change the defaulted sharp or flat by right clicking on the note and selecting

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one of the 'Force to' options: double flat, flat, sharp, or double sharp.

62 Insert Note Before Current

Use this to insert a note before the currently selected note.

This can also be done by just hitting the 'I' key.

63 Add Note After Current

Use this to add a note right after the currently selected note.

This can also be done by just hitting the 'A' key.

64 Add Note At End

Use this option to add a note at the end of the music in the selected view.

This can also be done by just hitting the 'E' key.

65 Add Note At Current

This command adds a note at the same time as the currently selected note.

This can also be done by just hitting the 'M' key.

66 Pitch Up 1/2 Step

Use this option to move the selected note up 1/2 step. For instance, this will change a C to a C sharp (or a D flat depending on the key signature selected).

This can also be done by just hitting the up arrow key.

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Notes will default to a flat or sharp depending on the key signature. You can change the default by right clicking on the note and selecting one of the 'Force to…' options off the pop-up menu.

67 Sharping a note

You can move a note in pitch by half steps by using the up and down arrow keys.

The difference between a C and a C sharp note (or D flat), for example, is a half step. The difference between an E and an F note is also only a half step because there is no black key between them on a piano.

If you have the 'Move Pitch To Key' option on (which is off by default), using the up and down arrow keys will keep the notes within the selected key signature, and will therefore skip some notes.

Notes will appear as flats or sharps depending on the key signature. You can change the default by right clicking on the note and selecting one of the 'Force to…' options off the pop-up menu.

68 Flatting a note

You can move a note in pitch by half steps by using the up and down arrow keys.

The difference between a C and a C sharp note, for example, is a half step. The difference between an E and an F note is also only a half step because there is no black key between them on a piano.

If you have the 'Move Pitch To Key' option on (which is off by default), using the up and down arrow keys will keep the notes within the selected key signature, and will therefore skip some notes.

Notes will appear as flats or sharps depending on the key signature. You can change the default by right clicking on the note and selecting one of the 'Force to…' options off the pop-up menu.

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69 Pitch Down 1/2 Step

Use this option to move the selected note down 1/2 step. For instance, this will change a D to a C sharp (or a D flat depending on the key signature selected).

This can also be done by just hitting the down arrow key.

Notes will appear as flats or sharps depending on the key signature. You can change the default by right clicking on the note and selecting one of the 'Force to…' options off the pop-up menu.

70 Increase Duration

This option will increase the duration of the selected note. This will cycle through the most used durations, including triplets.

This can also be done by just hitting the '>' or '+' key.

71 Decrease Duration

This option will decrease the duration of the selected note. This will cycle through the most used durations, including triplets.

This can also be done by just hitting the '<' or '-' key.

72 Properties, Note Menu

This option will bring up a dialog box where you can fine-tune the duration of a note and set the exact velocity(volume) of the note.

Note at time: This tells you exactly where your note is in time, showing Bar/Measure:Beat:Ticks.

Duration: Shows you the duration of the note, both its symbol and its exact tick duration. Ticks are usually 384-per-quarter-note (although the ticks-per-quarter-note can be changed in the song properties menu item).

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Velocity/volume - change how loud the note plays.

Note-Off velocity/volume - change how loud the note plays at the end of the note. This is usually used for wind instruments to get more expressiveness. Not all instruments support note-off (This depends upon the sound card in your computer).

73 Delete

This option will delete the currently selected note. Notes after the note deleted will be moved back to fill in any space left.

This can also be done by just hitting the delete key.

74 Clear

This option will clear the currently selected note. This is different than delete in that it will leave any empty space, and not affect the position of notes afterward.

This can also be done by just hitting Ctrl+Delete keys at the same time.

75 Move Right in time

This option will move forward in time to the next note, making it the currently selected note (the selected note is the one that's flashing).

This can also be done by just hitting the right arrow key.

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76 Move Left in time

This option will move backward in time to the previous note, making it the currently selected note (the selected note is the one that's flashing).

This can also be done by just hitting the left arrow key.

77 Select Next Current Note

This option will move to the next note at the currently selected location. If there is only one note at the current time, nothing will happen.

This can also be done by just hitting Shift + Up Arrow.

78 Select Previous Current Note

This option will move to the previous note at the currently selected location. If there is only one note at the current time, nothing will happen.

This can also be done by just hitting Shift + Down Arrow.

79 Complex/Normal Mode

Normal/Complex mode allows the switching between the two modes.
Normal Mode is recommended because it eliminates the complexities of tracks and channels. In Normal Mode, there is only one instrument and one channel per track.

80 Play On Hesitation

When this setting is on you can hear what the notes will sound like when you move them.

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81 Play Only Selected View

Play only selected allows you to hear only the currently selected view. If this is off, you will hear all the tracks/instruments of your song together.

82 Auto Rewind

This selects whether or not you want the playbar to go back to the beginning of the song when it is finished playing the entire song.

83 Move Pitch To Key

This setting effects moving a note in pitch using the up and down arrow keys. It will constrain the movement of the note to only the notes of the selected key signature.

84 Show Note Placement

This turns on/off the display of the red note dot when moving the mouse.

85 Show Lyrics

This turns on/off the display of lyrics in the song.

86 Snap-To Resolution

This option will bring up the snap-to resolution dialog. The resolution you select will affect where the notes are placed using the mouse. For instance, if you select 'quarter' note resolution notes can only be placed at quarter note intervals. This will also affect how much notes move when moved in time, and where controller changes are placed in the controller view.

***Remember: you are allowed to *overlap* notes (so a note can play in the middle of another note), so be careful with the note placement. For instance, if you select eighth note resolution, you can place quarter notes every eighth beat,**

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allowing you to place 5, 6, 7, or even 8 quarter notes in a single measure with 4/4 time. If you don't want to overlap notes make sure to select the correct snap-to resolution so this is not possible.

This setting will automatically change when you select a shorter note duration (to try to avoid overlap of notes). If you don't want this setting to change automatically, select a resolution setting yourself and it will stay at that setting (until you close Music Masterworks).

You can also get to this option by selecting the button.

87 View, New

This option will create another view. Use this option to create another track/instrument in your song.

Each view can show a different track/instrument. You can even see multiple tracks/instruments in the same view by selecting the button labeled 'Track #'.

This option is also activated by selecting the button.

88 New, View menu

This option will create another view. Use this option to create another track/instrument in your song.

Each view can show a different track/instrument. You can even see multiple tracks/instruments in the same view by selecting the button labeled 'Track #'.

89 View, Delete

This will remove the currently selected view. Note that this will not delete the track(s) the view is showing.

90 Delete, View menu

This will remove the currently selected view. Note that this will not delete the track(s)

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the view is showing.

91 Show Controller Graph

This function brings up a controller view (within the currently selected view) so that you can edit effects such as pan, vibrato or piano pedals.

92 Tracks

Tracks are used in MIDI files to organize music data. Usually, each track will use only one instrument and transmit on only one channel. Tracks are used for organizational purposes only and do not affect the MIDI data transmitted.

Tracks can use multiple instruments and/or channels, however this makes things more confusing. Music MasterWorks starts out in 'Normal Mode' which allows only one instrument and channel to be used within one track. You can, however, go into 'Complex Mode' to use multiple instruments and/or channels within a track.

The section on views describes how to add a track.

93 Channels

You can set the channel a particular track is on by selecting the 'Song'-'Track Properties' menu option. In Normal Mode, this will change all notes in that track to the specified channel.

If you are in complex mode (which allows more than one channel used in one track) you can select the channel from the drop-down list.

Channel Tutorial:

> Midi Cables are able to transmit 16 channels of music data. Depending on the capabilities of the device, MIDI instruments can send or receive data on one or all of the 16 channels. If you have several MIDI instruments chained together (using the THRU connectors) you can have each MIDI instrument on their own specific channel(s), so they do not interfere with one another.

Music MasterWorks transmits music data through the selected MIDI Device on the 'Device'-'MIDI Output' sub-menu. Using the 'internal' synthesis options, there is no MIDI cable involved, and the music is piped out your computer's speakers. On most sound cards there is a second output option - the MPU-401 port. This option sends music data out of your computer and through the midi cable hooked up to the back of your computer(if there is a cable hooked to your computer).

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Both note and controller data are sent per channel. If you change a foot pedal setting on channel 3, only the notes transmitted on channel 3 will be effected. There are some sound cards, however, that do not recognize independent channels, so all notes will be effected.
For both external and internal synthesis, Channel 10 is reserved for drum/percussion sounds. Different types of percussion instruments can be heard by changing the pitch of the notes played.

94 Normal/Complex Mode

Normal Mode is recommended because it eliminates the complexities of tracks and channels. Complex mode is sometimes needed, especially when opening someone else's MIDI files that use more than one channel or instrument per track, but complex mode is not recommended for most uses.

MIDI files are divided up into tracks. Usually, each track uses only one channel and one instrument. However, a track can make use of many channels or instruments. In Music MasterWorks, the 'Normal Mode' restricts each track to one channel and one instrument. This is the easiest mode to compose in, since you do not need to know anything about tracks or channels. To add another instrument to your composition, just add another view, and change the instrument type for that view. If you change the instrument in a view, all the notes in that view will change to that instrument. If you want to change the default channel for a view, select the 'Track Properties' option off the 'Song' menu.

If you need more flexibility, however, you can go into the 'Complex Mode', which allows you to select which channel and instrument you want for the notes you create. This mode is more difficult however, because it will not automatically change all the notes in the track to the channel and instrument you specify. If you select a new channel or instrument only the new notes that you put down will have that channel or instrument (the notes you have already put down will stay on the same channel or instrument).

95 Controller View

This function brings up a controller view within the currently selected view, so that you can add effects such as pan, vibrato or pedal changes.

Selecting this option will bring up a sub-window at the bottom of the currently selected view. It shows a graph of the control changes of a single controller type. The controller type is displayed on the box at the left edge. To change the type of the controller, click on the box at the left edge. You will be able to select between the controllers that have been defined for the selected MIDI device.

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To make a single controller change, just left click in the graph area - inside the measure guidelines.
The placement of your controllers changes are positioned using the note snap-to resolution. Hit the button to change the snap resolution.

To change a range of time at once, keep the left button down and drag the mouse. A dialog box will appear that will allow you to select what kind of pattern you like to put down. Click on the up and down buttons to select a different pattern type. The scrollbars on the side change the starting and ending position of the graph. Depending on the pattern type selected, you might see one or two adjustment scrollbars near the bottom. They adjust different properties in the graph.
If you would like to erase the range you just selected, select the "Erase Range Selected" option button and hit OK.

What is shown in a controller view are the control changes for the selected controller for the selected channel. If you are experiencing problems with controllers interfering with one another (or notes interfering with one another for that matter), you'll need to put the controllers on separate channels. You can do this by using the 'Song'-'Track Properties' menu option to give each track its own channel.

Note that what is shown in the controller view are the control changes for the currently selected channel in the sub-window. It will only show control changes from one channel, but these can be from all the tracks in the composition. It is shown this way because even the control changes from other tracks will affect the current track.

Check your sound card / MIDI instrument manual to see what effects your device supports.
note: If your MIDI device does not support the "Reset All Controllers(121) " MIDI message, you will need to specifically set the value of each controller you use in the very beginning of the song.

96 Drums

See **Percussion Instruments**

97 Percussion Instruments

You can play percussion instruments by placing notes in channel 10(which is reserved for drum/percussion instruments). You can do this by selecting "Song"-"Track Properties" off the menu. This will put you into a dialog where you can select the default channel for the track. Select channel 10 and then hit OK. Now, the notes you put down will sound like different percussion instruments. Notice that the type of

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percussion instrument played is dependent on the pitch of the note.

The 'Number of Copies' parameter in the Pastemm_paste screen is very useful when dealing with repeating percussion sequences.

The traditional drum set sounds start at C3 and go up to A4.
Here is a list of the usual Channel 10 percussion instrument mappings to note pitch (Your sound card may have more or less sounds then listed here):

Pitch	Percussion Instrument Played on Channel 10
C#7	- Castanets
C7	- Sticks hit together
B6	- Bell
A#6	- Shaker
A6	- Open Triangle
G#6	- Mute Triangle
G6	- Open Cuica (brazilian drum)
F#6	- Mute Cuica (brazilian drum)
F6	- Low Wood Block
E6	- High Wood Block
D#6	- Claves (high pitch wood sound)
D6	- Long Guiro (ratchet sound)
C#6	- Short Guiro (ratchet sound)
C6	- Long Whistle
B5	- Short Whistle
A#5	- Maracas (shaker)
A5	- Cabasa (shaker)
G#5	- Low Agogo Bell
G5	- High Agogo Bell
F#5	- Low Timbale (african/caribbean drum)
F5	- High Timbale (african/caribbean drum)
E5	- Low Conga Drum
D#5	- Open High Conga Drum
D5	- Mute High Conga Drum
C#5	- Low Bongo Drum
C5	- High Bongo Drum
B4	- Ride Cymbal 2
A#4	- Vibra Slap
A4	- Crash Cymbal 2
G#4	- Cowbell
G4	- Splash Cymbal
F#4	- Tambourine
F4	- Ride Bell
E4	- Chinese Cymbal
D#4	- Ride Cymbal 1

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D4	- High Tom Drum
C#4	- Crash Cymbal 1
C4	- High-Mid Tom Drum
B3	- Low-Mid Tom Drum
A#3	- Open Hi-Hat
A3	- Low Tom Drum
G#3	- Pedal Hi-Hat
G3	- High Floor Tom Drum
F#3	- Closed Hi-Hat
F3	- Low Floor Tom Drum
E3	- Electric Snare Drum
D#3	- Hand Clap
D3	- Acoustic Snare Drum
C#3	- Side Stick
C3	- Bass Drum

98 Recording

To record MIDI notes with Music Masterworks from a MIDI keyboard/piano make sure the MIDI cable is connected correctly (remember, the 'in' plug goes into the 'out' port), and then hit the record button(the button with the red circle and a note). When you hit the record button, the record dialog will appear and Music MasterWorks will immediately start recording (and playing what is already in the song so you can hear how you're new part will fit). When you are done recording, click the 'Done' button.

You'll probably want to turn on the metronome to better synchronize your recording. You'll also probably want to also turn on the Count-In beats, to give you extra time in the beginning to prepare. These options can be accessed from the 'Options'-'Metronome Settings' menu item.

If the song is blank when you start recording, the record function will delete any initial time wasted in the beginning of the recording. If the song is not blank, the rest of the song will play while you record, so you can hear how your new recorded section will blend in.

After you are done playing, hit the 'Done' button. Now you can (optionally) set these fields (or just hit OK to insert the music you just recorded):

Place Recording At: is the timemm_timeval at which the recording will be placed in the song. This defaults to where the play/record line was when you started recording. The bars value starts at 1 for the first bar and does not have an upper limit. In the staff view, the bar numbers are printed above the start of each bar for reference. The second value is the beats. In the 'at time' value, this number starts at 1 for the first beat and goes to however many beats there are in a measure. If, for example, you selected 3/4 time you would have 3 beats in a measure, so the value could go

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up to 3.
The last time value is the 'remaining ticks'. This value is dependent on the 'ticks per quarter note' value set in the song properties. This value is usually out of 384 ticks(which is the default). That means that each quarter note is equal to 384 ticks. So if you wanted to move the value over another half a quarter note, you would enter 192 in this field.

Placement Method: has two parts: The first determines what will happen to the notes being pasted over. The 'Mix' option will keep the current notes; the 'Write Over' option will remove the current notes; the 'Insert' option will move the rest of the notes (depending on the view filter) over before performing the paste.
The second part determines which tracks the notes will be placed in and if the channels and instruments will be changed. If you select 'Force to Current Track/Channel/Instrument' it will change everything you pasted to be of the current track, and will change the channel and instrument to what you have selected in the combo boxes above the view. If you select 'Assign Tracks by Channel and Instrument' it will place depending on which track matches the instrument and channel the best. If there is no good match, it will create a new track for each combination of channel and instrument. You should use this option if you copied more than one track and what to keep the instruments intact.

Align: option alters the starting times and/or durations of the notes you have recorded, to ensure they will fall on even beat boundaries.

Fit to time: option will shrink or expand your recording, if you have a set number of measures you know the music should fit into.

Music MasterWorks echoes the recorded input (when it is recording) out the selected device on the 'MIDI Recording Echo' sub-menu.

You can compare your recording to another song by either opening two song windows (Music MasterWorks allows more than one song open at once) or you can create a new View/Track in the original song window and record into it.

99 Lyrics

To add lyrics *right* click in open space in the staff (not on a note) where you want the lyrics to start. When the menu pops up, select "Add Lyric". Type in your lyrics and hit return.

To change lyrics you've already put down, *right* click where you put the lyrics you want to change. You need to click on or a little after where the lyrics are located, and you must be precise. When the menu pops up, select "Change Lyric". Type in what you want to change it to and hit return.

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To delete lyrics, *right* click where you put the lyrics you want to delete. You need to click on or a little after where the lyrics are located, and you must be precise. When the menu pops up, select "Delete Lyric".

100 Bank Select

If the MIDI device you are using supports multiple instrument banks, you can select the bank by selecting the last option in the instrument pull-down list, called "Bank Select". This will ask you if you want bank select, and which bank you would like.

If your MIDI device supports only controller zero to set the bank, you may have to multiply the bank number by 128 (Music MasterWorks sends both controller #0 and controller #32 to set the bank, as per the MIDI specification).

101 Note Duration

You can set a duration of a note after you put it down in several ways:

You can set the duration by selecting one of the note duration buttons at the top of the window. In addition to that, you can select the dot or triplet buttons which multiply the note duration by one and one-half and two thirds respectively.

You can also hit the '+' or '-' keys to change the duration, or the '<' and '>' keys.

You can also fine tune the note duration by *right* clicking on the note and selecting the 'Properties' option. The 'ticks' entry field will show the duration of the note, in MIDI ticks. With this method, you can fine tune the duration by adding or subtracting a few ticks, or you could make a very long note by multiplying it.

'Ticks' is short for 'Ticks per Quarter Note', which is a standard MIDI measure. This value defaults to 384 for songs created in Music MasterWorks, so 384 = quarter note, 192 = eighth note, etc.

102 Triplet Notes

You can make triplet notes (duration changes so that 3 notes fit in the space of 2) by selecting the triplet button (the small one with the '3' on it) or by selecting the '+' or '-' keys to change the note duration until you get to a duration that has a '3' on top of the note stem.

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103 Staff Style View

The staff style view is the default style. This type of view displays music in standard staff notation. You can change the clef style and other settings by selecting the 'Options'-'Staff / Piano Roll Options' menu item. You can also choose Piano Roll or Message Styles by selecting them in the drop down box on the left.

About sharps and flats: If C Major or a key signature with sharps in it is selected only sharps will be displayed by default. If a key signature with flats is selected only flats will be displayed by default. For instance, the note 1/2 step up from C will be displayed as C sharp in the key of C Major. However, that same note will display as D flat if the key of F flat is selected (please note that C sharp and D flat refer to the exact same note / pitch / key on the piano).

You can change the defaulted sharp or flat by right clicking on the note and selecting one of the 'Force to' options: double flat, flat, sharp, or double sharp.

104 Piano Roll Style View

You can select the piano roll style view, instead of the standard staff notation view, by selecting it in the combobox in the upper left corner of the view. The Piano Roll style view shows notes in relation to the keys on the keyboard. This view style is especially good for those who do not know how to read music.

Each bar in the piano roll represents a note. The longer the bar, the longer the duration of the note is. The pitch is shown in relation to the keys on a piano, with the middle C octave's keys colored white.

You can change the color of the notes in this view by selecting the 'Options'-'Note Fill Type' menu option. This option allows you to select different color gradients depending on the note's velocity(volume), instrument or channel. This option is good if you need to get a feel for the change in volume throughout the music.

You can also condense or expand the length of the note bars by selecting the 'View'-'Set Note Width' option.

105 Message Style View

In this view, you can see all the MIDI messages in your song. You can see their type ('Note','Control Change','Text','System Exclusive') and their low level MIDI parameter numbers. These numbers cannot be edited, just viewed.

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This view is useful to see at what exact times notes start at, so you can do precise editing. Remember, though, that this view shows ALL MESSAGES regardless of their track/channel/instrument - so you may have to do some searching to find the note you are interested in.

106 Program Change

You can change the instrument of a view by selecting the instrument combobox at the top of the view

Music MasterWorks will record program change messages and place each channel/instrument combination's notes in a different track.

107 Sustain

You can sustain a note for more than one measure by *right* clicking on the note and selecting the properties option.

To apply the sustain controller effect, use the controller view .

108 Sostenuto

To apply this MIDI controller effect, use the controller view .

109 Modulation

To apply this MIDI controller effect, use the controller view .

110 Breath

To apply this MIDI controller effect, use the controller view .

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111 Balance

To apply this MIDI controller effect, use the controller view .

112 Pan

To apply this MIDI controller effect, use the controller view .

113 Expression

To apply this MIDI controller effect, use the controller view .

114 Soft Pedal

To apply this MIDI controller effect, use the controller view .

115 Timbre

To apply this MIDI controller effect, use the controller view .

116 Brightness

To apply this MIDI controller effect, use the controller view .

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117 Tremolo

To apply this MIDI controller effect, use the controller view .

118 Chorus Depth

To apply this MIDI controller effect, use the controller view .

119 Duration

You can set a duration of a note after you put it down in several ways.

You can set the duration by selecting one of the note duration buttons at the top of the window. In addition to that, you can select the dot or triplet buttons which multiply the note duration by one and one-half and two thirds respectively.

You can also hit the '+' or '-' keys to change the duration, or the '<' and '>' keys.

You can also fine tune the note duration by *right* clicking on the note and selecting the 'Properties' option. The 'ticks' entry field will show the duration of the note, in MIDI ticks. With this method, you can fine tune the duration by adding or subtracting a few ticks, or you could make a very long note by multiplying it. 'Ticks' is a MIDI standard measure, and can be adjusted in the 'Song Properties' dialog.

120 Selecting a range of notes

You can select a range of notes by using the mouse or the keyboard.

Using the mouse, hold down the left mouse button where you want to start the selection, and drag it to where you want the selection to end, then release the left mouse button.

You can also use the menu item: 'Edit'-'Select Time Range'. This will pop up a screen where you can select the starting time and duration of what you want

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selected. See the Entering Time Values section to understand the MIDI time system.

To select more than one track (or channel or instrument) at once, you need to change the view filter by selecting the view filter button, which will look something like this: Track 1

121 MIDI Echo

Echoing of MIDI Input is done automatically when recording. It will echo to the device selected on the 'Devices'-'MIDI Recording Echo' sub-menu (unless 'no echo' is chosen).

122 Echo

Echoing of MIDI Input is done automatically when recording. It will echo to the device selected on the 'Devices'-'MIDI Recording Echo' sub-menu (unless 'no echo' is chosen).

123 MultiTrack Recording

Music MasterWorks can record and store multiple tracks. When recording in 'Normal Mode', each channel/instrument will be put into a separate track automatically.

Also, while recording, Music MasterWorks plays your previously recorded tracks so you can hear everything together.

See the section on Recording.

124 Unlocking Music MasterWorks

For secure online credit card ordering and other options, please visit this site:

http://www.musicmasterworks.com

To order by phone call:

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U.S.: 1-303-233-6791
Call for information on educational discounts for schools.

To purchase by mail directly to Aspire Software, send a check or money order for $34.95 U.S. (+$5 if you would like an installation CD mailed to you) and the personal ID number that appears in the 'Help'-'About' dialog to:

Aspire
12556 West 7th Avenue
Golden, CO 80401
USA

Please make checks out to "Aspire".
REMEMBER to include:
Personal ID Number (from the initial pop-up screen, or 'Help'-'About' screen)
e-mail address or home address
Your name

If you include your e-mail address, you will receive an unlock code that you will need to type into the 'about' dialog. This will give you the full functionality of Music MasterWorks

If you include only your home address, or specify you want a installation CD, then it will be sent to you by regular postal mail (remember to include +$5 for the CD's shipping and handling).

125 Purchase Music MasterWorks by Phone

To purchase by phone, call (U.S.): **1-303-233-6791**

If you wish to purchase through our secure internet ordering site follow the links at:

http://www.musicmasterworks.com/credit.html

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Your name

If you include your e-mail address, you will receive an unlock code that you will need to type into the 'about' dialog. This will give you the full functionality of Music MasterWorks

If you include only your home address, or specify you want a installation CD, then it will be sent to you by regular postal mail (remember to include +$5 for the CD's shipping and handling).

127 Buy Music MasterWorks

See Unlocking / Purchasing Music MasterWorks.

128 Register Music MasterWorks

See Unlocking / Purchasing Music MasterWorks.

129 Rests

Rests are created automatically in Music MasterWorks. For instance, if you use the mouse to create a note away from other notes you will see the rests appear. Or, you can move a note in time using Ctrl+LeftArrow or Ctrl+RightArrow and rests will appear if you create a space.

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130 Audio

You can add wave audio segments ('.WAV' files) to your composition by right clicking in the staff where you want the audio segment to start and then selecting 'Add Audio' in the popup menu.

You can also record wave audio segments using the 'Record Wave' button in the toolbar. This will record from the device selected on the 'Device'-'Wave Input' menu.

To change the volume level of the microphone input, double-click on the speaker icon in the Windows taskbar (if it is not there then open it from the Windows Start Menu: 'Programs'-'Accessories'-'Entertainment'-'Volume Control'). In the Volume Control app, select 'Options'-'Properties' from the menu. Select 'Recording' and hit OK. Now you will see all the recording devices, as opposed to all the playback devices you were seeing before. Make sure the input volume on the microphone is up. Also, if you have a non-powered microphone, you'll need to turn up the volume even more.

If you have music already recorded it will play it while recording wave audio (if the play-on-record setting is on). You'll probably want to wear headphones to listen to what's already recorded, so that it does not get recorded again through the microphone.

Please note that wave audio support is limited in Music MasterWorks:

- If the wave segments are overlapped, only 1 audio segment will play at a time (the newest one will interrupt the one currently playing).
- If the wave segments go beyond the end of the notes, they will be cut off (you can avoid this by inserting a note or control change past the end of the wave segment).

Wave audio segments are not a feature of the MIDI standard or MIDI (.mid) files. They are supported in Music MasterWorks by inserting a MIDI comment with a special text syntax that refers to a separate wave (.WAV) file. These files can be edited using wave editing software, and Music MasterWorks will automatically detect changes in the file (if the file's timestamp changes) and reload it automatically.

131 Wave

You can add wave audio segments ('.WAV' files) to your composition by right clicking in the staff where you want the wave audio segment to start and then selecting 'Add Audio' in the popup menu.

You can also record wave audio segments using the 'Record Wave' button in the toolbar. This will record from the device selected on the 'Device'-'Wave Input' menu.

To change the volume level of the microphone input, double-click on the speaker icon in the Windows taskbar (if it is not there then open it from the Windows Start Menu: 'Programs'-'Accessories'-'Entertainment'-'Volume Control'). In the Volume Control app, select 'Options'-

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'Properties' from the menu. Select 'Recording' and hit OK. Now you will see all the recording devices, as opposed to all the playback devices you were seeing before. Make sure the input volume on the microphone is up. Also, if you have a non-powered microphone, you'll need to turn up the volume even more.

If you have music already recorded it will play while recording wave audio. You'll probably want to wear headphones to listen to what's already recorded, so that it does not get recorded again through the microphone.

Please note that wave audio support is limited in Music MasterWorks:

- If the wave segments are overlapped, only 1 audio segment will play at a time (the newest one will interrupt the one currently playing).
- If the wave segments go beyond the end of the notes, they will be cut off (you can avoid this by inserting a note or control change past the end of the wave segment).

Audio segments are not a feature of the MIDI standard or MIDI (.mid) files. They are supported in Music MasterWorks by inserting a MIDI comment with a special text syntax that refers to a separate wave (.WAV) file. These files can be edited using wave editing software, and Music MasterWorks will automatically detect changes in the file (if the file's timestamp changes) and reload it automatically.

132 Record Wave

This function records your voice (or other audio) from your PC microphone. Make sure the microphone is securely plugged in to your computer – usually next to where the computer speakers are plugged in. Also, make sure the microphone is selected on the 'Device'-'Wave Input' sub-menu.

When using a microphone to record, do not sing directly into it. The force of your breath may cause unwanted noise. It is better to direct your voice slightly above or below the microphone. If it is a directional microphone, make sure it is pointed to your mouth. Also, do not get too far away from the microphone, or it may not pick up anything at all. If you have a powered microphone, make sure the volume (in the Windows Volume Control) isn't too high or too low.

To change the volume level of the microphone input, double-click on the speaker icon in the Windows taskbar (if it is not there then open it from the Windows Start Menu: 'Programs'-'Accessories'-'Entertainment'-'Volume Control'). In the Volume Control app, select 'Options'-'Properties' from the menu. Select 'Recording' and hit OK. Now you will see all the recording devices, as opposed to all the playback devices you were seeing before. Make sure the input volume on the microphone is up. Also, if you have a non-powered microphone, you'll need to turn up the volume even more.

If you have music already recorded it will play while recording audio. You'll probably want to wear headphones to listen to what's already recorded, so that it does not get

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recorded again through the microphone.

Recording is done at the fastest speed available, 16 bits per sample in mono(not stereo). To use wave files of a different sample rate, or stereo wave files, you need to record them in a different program (such as 'Sound Recorder' that comes with Windows), and insert them into your song by right clicking in the staff and selecting 'Add Audio'.

Please note that wave audio support is limited in Music MasterWorks:

133 Record Song to Wave File

This function will record your song to a wave file (.WAV extension). Wave files can be used to create an audio CD (although Music Masterworks does not have CD burning functionality). This function will first ask you the name of the output wave file. It will then play the entire song and record it to that wave file.

This function uses either the DirectX 'Wave Out Mix' recording option, or the sound card's built-in wave out device (for SoundBlaster cards this is 'What U Hear', for other cards it may be mono or stereo mix, or output mix). The device used to record what you hear out your speakers is chosen automatically by Music Masterworks. If the DirectX 'Wave Out Mix' option is used, you must select a software synthesizer such as 'Microsoft GS Wavetable SW Synth' under the 'Devices'-'MIDI Output' sub-menu. This is because the 'Wave Out Mix' option is not capable of recording hardware MIDI synthesizers.

134 Voice To MIDI Notes

You can perform this feature by using the button in the toolbar or by selecting 'Play/Record'-'Voice to MIDI Notes' from the menu. You may also want to try the **Singing Analysis** function.

You can use this feature to sing a melody and have it changed into notes for you, for quick and easy composing!

When the graphing view comes up, start singing! You should see green lines where it has detected notes. The piano keys are there as a reference to the pitch. The guide lines indicate where the pitch is correct for that note.

If your voice is not within the range shown, you can click on a piano key up or down from the center to get a different range. You can also adjust the pitch range, which is

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the number of notes detected from the center note (lowering the pitch range will make it go faster).

When you sing into the microphone, remember:

- Check the volume indicator to the right to see if you are getting enough volume with your singing. A volume level in the green area is good and the higher the better, until it gets into the red area. In the yellow area is too low. You may need to adjust the microphone's input volume in the Windows volume control settings(see directions below).
- Longer notes are picked up better than shorter ones
- Get close to the microphone so your voice will be picked up
- Do NOT sing directly into the microphone, that causes 'wind noise' from the force of your breath. It is better to sing over or under the microphone.
- Sing in even tones, do not sing in a quavering voice.
- Do not move the microphone, it may cause unwanted noise.
- Make sure the note range is correct for your voice (click on a piano key to re-center the range to that note).

To change the volume level of the microphone input, select 'Device'-'Recording Volume' from the menu. Make sure the input volume on the microphone is up. Also, you may need to select the 'Advanced' button and then select the 'boost' option for more recording volume.

Also, if your microphone has an on/off switch, turn it on (these types of dynamic microphones don't do as well as regular PC microphones, so they're not recommended).

Since the voice-to-note process is not a perfect one, you may want to adjust the **settings** to get better results.

The audio wave input is taken from the device selected on the 'Device'-'Wave Input' sub-menu.

The other option, wave file to MIDI, will take input from a wave file ('.WAV' extension) instead of real-time through the microphone.

135 Appending

You can append segments or entire songs to another song. First, open both songs in Music MasterWorks (it allows multiple songs to be open at once). Then, select the segment you want to copy (either by using the mouse or by using the 'Edit'-'Select Range' option), and select 'Edit'-'Copy' from the menu. Then select the other song window, select the view you want to paste it into, right click where you want the segment to go, and select 'Edit'-'Paste'.

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To copy an entire song, you will need to perform an additional step. Since songs may have multiple tracks in them, you will need to view all the tracks before copying it. First, select the 'Track #1' button. Then select 'All Tracks', and then hit OK. Now you will see all tracks displayed at once in the view. Now select 'Edit'-'Select All' from the menu, and then 'Edit'-'Copy'. This will copy the entire song (excluding time/key signatures and tempo changes). Then select the other song window, and when you paste select the 'Assign Tracks by Channel and Instrument' option. This will create a new track for each channel/instrument instead of forcing all the notes into the same instrument.

136 Filter

You can filter what you see in a view by selecting the 'Track #1' button. A dialog will come up where you can select which tracks you want to see together in the same view.

note: This filter affects editing as well. For instance, if you insert a copied section it will push over only the tracks you see in your view. In this way, you can edit many tracks at once, or only the track you want to edit.

137 Limits

The following lists Music MasterWork's limitations:

Number Of Channels: 16
Number Of Tracks: 65536
Number Of Instruments: 16383 Banks x 128 instruments each
Number Of Simultaneous MIDI Messages: 1024

138 Voice To Note Settings

You can get to this screen by selecting 'Options'-'Voice to Note Settings' off the menu.

These settings affect how the **voice to notes** function will interpret your recording or wave file. Since converting voice to notes is a difficult process and not a perfect science, these settings can help give better results:

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Automatic Tuning Calibration: If you feel the pitch reported is off, click on this button to auto-calibrate the tuning. Some sound cards may not record at the speed requested, which throws off the tuning. This feature will correct that problem.
This feature requires at least 30 seconds to calibrate properly. You can click on the 'Internet Time Server' option - but this requires a speedy connection to the time server to be reliable.
This setting is saved in the 'Tuner.INI' file (a text file) under 'FreqAdjust'. You may edit this value if you want to adjust it manually.

Minimum Note Size Used: The minimum input note size that will not be ignored and thrown out. This is needed especially when there is a lot of noise picked up and turned into false notes. The detected note size needs to be smaller than the actual note size.

Minimum Output Note Size: If notes are less than this length, the processor will join two adjacent notes of the same pitch to try to bring them up to this length.

Delete Rests Method: This specifies what to do with rests (dead space) between notes. You can either have the time unmodified, have only the beginning dead space taken out, or have all dead space taken out and have the notes played right after one another.

Include Pitch-Bend Changes: This option will include MIDI pitch-bend controller changes if it is clicked. This will adjust the pitch of the note throughout the note. This can increase the realism of the converted notes.

Use computed velocity/volume for notes: This will compute the volume of each note from the 'power' of the waveform of the note. If this is not clicked, every note will get the same volume/velocity setting.

Use expression/volume changes throughout notes: This will include MIDI expression controller changes to adjust the volume of the note throughout the note, for more accuracy and realism.

Time Resolution: This setting sets the detail of the analysis and will usually result in better results the more detailed the analysis. How, the more detailed the analysis the slower it will go. Only use the most detailed setting if you have a fast computer, or are willing to wait.

Noise Threshold Level: This is the minimum sample level where it will start looking for notes. Pick a higher setting if you are getting notes caused by noise. Pick a lower setting if it is not picking up enough notes (or better yet, increase the input volume!).

Accuracy Tolerance: Some notes are detected with a higher 'confidence' level than others. This setting specifies what level is acceptable. A higher level will tend to create more notes, but the pitch of the extra notes will become increasingly

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unreliable.

Lowest & Highest Pitch Detected: This is the range of pitch detected by the voice to note algorithm. Because the algorithm is not perfect, you may need to limit this to get better results. This will depend on your normal voice range. If you are whistling into the microphone, you will need to set the range up higher. *Note: the voice to midi uses a different setting, changed directly in the voice to midi window (the 'Note Range' value – you can also click on a piano note to make that the middle pitch recognized to move the range up and down).

Used for singing analysis only:
Save singing to allow for Replay: This will save your singing to a wave audio file so you can hear your beautiful voice over and over.

Used for singing analysis only:
Delay Start until Singing Start: This will delay the start of the analysis on the song until you start singing (until it reaches a certain volume level), to better line up your voice with the notes and give you time to mentally prepare.

139 Metronome Settings

You can get to this screen by selecting 'Options'-'Metronome Settings' off the menu.

These settings affect when and how the metronome plays while recording.

Metronome on while recording MIDI: If you want the metronome on while recording MIDI notes, click this checkbox.

Metronome on while recording Wave: If you want the metronome on while recording Wave audio, click this checkbox. You should wear headphones while recording, or the metronome clicks will be recorded through the microphone as well.

Count-In Beats: This option will add extra beats in the beginning before recording to give you time to prepare and to give you a sense of the beat. Any note recorded during these count-in beats will be ignored.

Metronome Note Section:

Channel: This is the channel the metronome note/beat will play on. This defaults to 10 because channel 10 is the MIDI 'percussion' channel. On this channel percussion instruments are played, and the pitch determines which instrument is used (the instrument field is ignored on channel 10).

Instrument: This is the MIDI instrument the metronome note/beat will play as, starting with 0 for Grand Piano.

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Pitch: This is the pitch of the metronome note/beat. 60 is middle C.

Volume: This is the volume/velocity of the metronome note/beat, from 1 to 127.

Use First Time Signature For Beat: When this option is checked, the time signature's denominator (the lower number) will be used to figure out the metronome interval and duration. For instance, if the denominator is 4 the metronome will sound every quarter note interval, if 8 it will sound every eighth note interval. This setting overrides the 'Beat Every' and 'Beat Note Duration' fields.

Beat Every: This determines the interval of the metronome. This number is in 'ticks'. If the ticks per quarter note (set in the 'Song'-'Song Properties' menu item) is set to the default, then 384 ticks = 1 quarter note.

Beat Note Duration: This is the 'ticks' duration of the metronome note. This is usually shorter than the interval, to give the metronome a quick tick.

140 Metronome

The metronome is turned on or off by the settings from the 'Options'-'Metronome Settings' menu item. It can be turned on or off for both MIDI and wave recording. You can specify Count-In beats in the settings to give you some time to prepare before recording. You can also override when the metronome plays and what the metronome will sound like.

The metronome beat, by default, is determined by the time signature's bottom number. If you are using 4/4 time, the metronome will beat every quarter note. If you are using 6/8 time, the metronome will beat every eighth note. If you start recording between beats (for instance, 1/8th note past the start of a bar, using 4/4 time), the first metronome beat will not play at your starting point, but at the next even beat.

141 Check your Singing

See the **Singing Analysis** section.

142 Singing Analysis

You can use this feature to check to see how close you can sing a tune. First, select a range of notes to specify the tune you are going to sing. You can do this using the mouse (by left clicking, keeping the left mouse button down, and dragging the mouse

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over the notes you'd like to select) or by using the keyboard (hold the shift key down while moving right or left with the arrow keys). Then select this button: .

To use this feature effectively, you'll need to do 2 things to the tune you are singing. First, you'll probably need to **transpose** the tune up or down in pitch based on the range of your voice (you can find the range of your voice using the voice-to-note feature). Second, you'll probably need to elongate the notes to give yourself time to sing each note (you can do this by **changing the tempo** of the song or using the **Quantize** feature).

The singing analysis uses Music MasterWork's voice-to-note technology. With this technology, longer notes are picked up better than shorter ones. Also, make sure to keep the microphone stationary(to keep the noise down) and do not sing directly into the microphone because the force of your breath will create unwanted noise.

One of the voice-to-note settings (from the 'Options'-'Voice-to-Note Settings' menu item) applies to singing analysis: 'Save Singing to allow for Replay'. If this option is on, it will save your singing to a file (called 'TempPlayback.wav' in your installation directory). Just hit the 'Replay' button after you're done to hear yourself singing. This option will slow down the singing analysis, however, so you may want to turn this off.

The audio wave input is taken from the device selected on the 'Device'-'Wave Input' sub-menu.

143 View Filter

You can filter what you see in a view by selecting the 'Track #1' button. A dialog will come up where you can select which tracks you want to see together in the same view.

note: This filter affects editing as well. For instance, if you insert a copied section it will push over only the tracks you see in your view. In this way, you can edit many tracks at once, or only the track you want to edit.

144 Music Theory Tutorial

The first step in creating a composition is to select a time and key signature. This can be done by selecting the 'Song' sub-menu and then selecting the 'Time and Key Signature' option. This will bring up the list of time/key signatures in your music. There is a list of these because the time and key signatures can actually change throughout the song. However, there is usually only one time and key signature. Select the 'Change' button from here. This will bring up another dialog where you can

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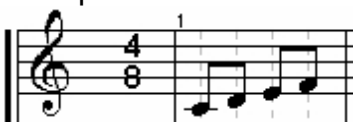
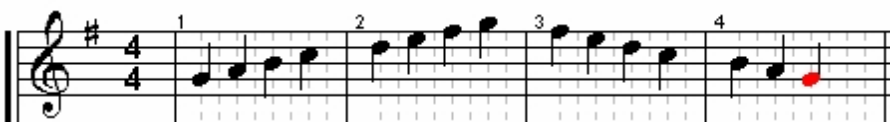
enter the time and key signature you would like. Note that you can change these options at any time.

The time signature specifies how many beats will fit into one measure (measures are delineated by the vertical lines going through the staff). If you select 4/8, for example, you can fit four eighth notes (that is, 1/8 of a whole note) into a measure, as in this example:

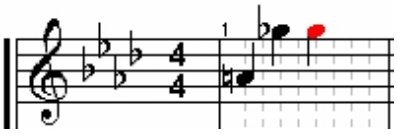


Use the time signature to keep your music to an even beat. If you find your music does not keep to the time signature, you can change the time signature at any time.

Then select the key signature. The key signature puts certain 'default' note pitches into the music. These defaults are specified as sharps or flats in the beginning of the composition. The G Major key, as in this example, will default all F notes to be sharped.



In this example the notes on the top staff line are sharped. You can tell you went outside the key signature if you see a sharp, flat or natural before a note you've put down. Here is an example of this:



Both the 'A' natural and the 'G' flat notes are outside the key signature. Note that the third note is exactly the same pitch as the second. It does not have a flat sign before it because the staff notation assumes that all notes after and on the same line are of the same pitch. If the third note was a normal 'G' note instead of a 'G' flat, it would have a natural sign in front of it (like the first note).

There are several different scale options to choose from in the key signature. Most popular songs use the 'Major' key. The 'Harmonic Minor' is the more popular of the minor scales because it has an upbeat sound to it. The 'Natural Minor' has a darker quality to it. The 'Pentatonic' and 'Whole Tone' scales are much more rare, but are included so you can experiment with them. The note specified in the key signature section is the note the scales start on. Note that many more scales exist that are not included in these options (the melodic minor, the twelve note serial scale, the gypsy scale, the Hassidic minor, etc…).

It is not unheard of to put notes outside the 'defaults' setup by the key signature, and

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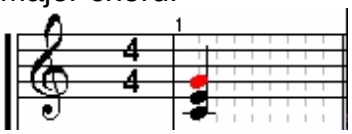
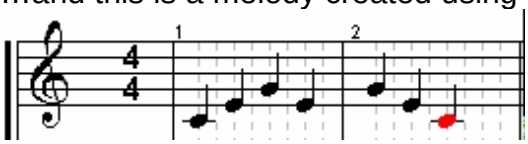
in fact most songs do. However, if you are a beginner and want to find out what the different key signatures sound like, you should select the 'Move Pitch To Key' option off the 'Options' menu. This forces the new notes you put down to stay within the key signature you've selected.

You can put chords (combinations of notes played at the same time) into your music very easily with Music MasterWorks. Just hit the 'C' key to cycle through chord combinations (or shift-'C' to cycle back). You can also hit ctrl-'C' to invert a chord. A chord and its inversions makes for a harmonious sounding progression of music. Another useful chord command is in the 'V' key, which anchors a chord by putting another note one octave down from the chord's base note.

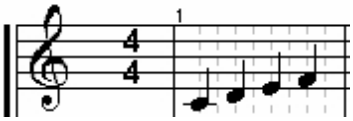
Many melodies can come out of the notes of a chord. For example, this is the C Major chord:

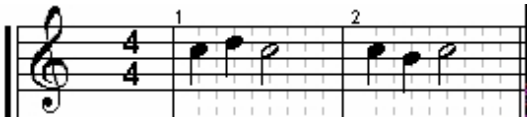


…and this is a melody created using the notes of that chord:



Another technique is to use passing and neighboring notes as in these examples:





Melodies often contain notes that do not conform to the chord from which they were created. Notes that pass between the notes of a chord often sound harmonious (as in the example to the left). Also, notes that momentarily go up or down from the notes of the chord also usually sound harmonious (as in the example to the right).

Music theory can get very complicated, and this is just a start. Sometimes notes that do not sound good played at the same time work fine within the flow of a composition. The rules were made to be broken, and remember: If it sounds good do it!

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